SPRAY PATCHER

Load King™

Published 10/13 Version 1.0 10/13

OPERATOR'S MANUAL

FC-SSP-0001

Schwarze Industries, Inc.
1055 Jordan Road
Huntsville, AL 35811-9310
1-800-879-7933
Email: support@schwarze.com
WWW:Http://www.schwarze.com

Schwarze Web Page

¡ATENCIÓN!
LEA EL INSTRUCTIVO
Si No Lee Ingles, Pida
Ayuda a Alguien
Que Se Lo Lea Para Que le
Traduzca Las
Medidas de Seguridad

MEMBER OF THE ALAMO GROUP
ALWAYS ON THE CUTTING EDGE®

©2013 Alamo Group Inc.

$0.00

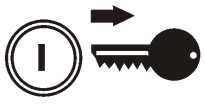
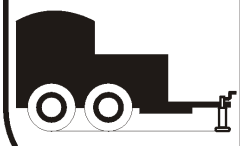
TO THE OWNER/OPERATOR/DEALER

All equipment with moving parts are potentially hazardous. There is no substitute for a cautious, safe-minded operator who recognizes the potential hazards and follows reasonable safety practices. The manufacturer has designed this equipment to be used with all its safety equipment properly attached to minimize the chance of accidents.

BEFORE YOU START!!Read the safety messages on the implement and shown in your manual. Observe the rules of safety and common sense!

⚠ DANGER

FAILURE TO FOLLOW SAFETY MESSAGE AND OPERATOR INSTRUCTIONS CAN CAUSE SERIOUS BODILY INJURY OR EVEN DEATH TO OPERATOR AND OTHERS IN THE AREA.

	READ, UNDERSTAND, and **FOLLOW** the following Safety Message. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards.
	Always wear OSHA approved Safety Glasses, Gloves, Steel toed Safety shoes, when operating the Road Patcher. Wear full length pants and long sleeve shirts to prevent emulsion from direct contact with skin.
	Keep Bystanders and Coworkers 25 feet away from emulsion nozzle when in use. Aggregate, heated fluids, and debris discharged from nozzle can fly distances up to 25 feet.
	Always shut down the Truck Engine, place the transmission in the park position, engage the parking brake, and remove the key before dismounting the truck. Never attempt to mount or dismount a moving truck or trailer.
	Shut down both Truck and Auxiliary Engines before preforming any maintenance on the equipment. Never work under raised components until they have been securely blocked up and supported.

D361

Load King Information Sheet

Delivery Record File Copy.

Remove This Page Prior To Delivery To Customer.

DELIVERY DATE_____

COMPANY NAME_____

ADDRESS_____

CITY_____

STATE_____ZIP_____

PHONE (_____) _____

PATCHER SERIAL NUMBER_____

AUXILIARY ENGINE MODEL_____

AUXILIARY ENGINE SERIAL NUMBER_____

TRAILER VIN NUMBER_____

MANUFACTURED BY:
Schwarze Industries, Inc.
1055 Jordan Road
Huntsville, AL 35811-9310
1-800-879-7933
Email: support@schwarze.com
WWW.Http://www.schwarze.com

SOLD AND SERVICED BY:

Load King Information Sheet

IMPORTANT CUSTOMER INFORMATION

It is important that all warranty forms for the chassis, sweeper, and auxiliary engine be filled out and sent to the appropriate component manufacturer. Failure to do so may result in costly delay or denial should a warranty claim be made.

DELIVERY DATE_____

COMPANY NAME_____

ADDRESS_____

CITY_____

STATE_____ZIP_____

PHONE (_____) _____

PATCHER SERIAL NUMBER_____

AUXILIARY ENGINE MODEL_____

AUXILIARY ENGINE SERIAL NUMBER_____

TRAILER VIN NUMBER_____

MANUFACTURED BY:
Schwarze Industries, Inc.
1055 Jordan Road
Huntsville, AL 35811-9310
1-800-879-7933
Email: support@schwarze.com
WWW.Http://www.schwarze.com

SOLD AND SERVICED BY:

TABLE OF CONTENTS

SAFETY SECTION 1-1

GENERAL SAFETY INSTRUCTIONS AND PRACTICES 1-2
DRIVER SAFETY INSTRUCTIONS AND PRACTICES 1-3
OPERATION SAFETY INSTRUCTIONS AND PRACTICES 1-4
MAINTENANCE AND SERVICE SAFETY INSTRUCTIONS AND PRACTICES 1-11
PARTS INFORMATION 1-16
Decal Location 1-17
Decal Description 1-19
Federal Laws and Regulations 1-26

INTRODUCTION SECTION 2-1

SPECIFICATIONS/FEATURES 2-4

OPERATION SECTION 4-1

OPERATOR REQUIREMENTS 4-3
Employer Responsibilities: 4-3
STARTING THE PATCHER 4-3
Start-Up Checklist for Daily Maintenance 4-3
PRE-OPERATION INSTRUCTIONS 4-5
PREPARING TO OPERATE SPRAY PATCHER 4-6
SPRAY PATCHER CONTROL BOX 4-7
MACHINE STARTING AND STOPPING PROCEDURES 4-8
4 STEP PATCHNG OPERATION 4-8
TROUBLESHOOTING GUIDE 4-10

MAINTENANCE SECTION 5-1

PARTS INFORMATION 5-2
GENERAL MAINTENANCE 5-2
Lubrication, Filter and Maintenance Schedules 5-2
EMULSIFIER APPLICATION DO’s AND DON’Ts 5-3
CLEAN-UP AND OVERNIGHT STORAGE 5-4

SAFETY SECTION

© 2013 Alamo Group Inc.

SAFETY

GENERAL SAFETY INSTRUCTIONS AND PRACTICES

A careful operator is the best operator. Safety is of primary importance to the manufacturer and should be to the owner/operator. Most accidents can be avoided by being aware of your equipment, your surroundings, and observing certain precautions. The first section of this manual includes a list of Safety Messages that, if followed, will help protect the operator and bystanders from injury or death. Read and understand these Safety Messages before assembling, operating or servicing this Implement. This equipment should only be operated by those persons who have read the manual, who are responsible and trained, and who know how to do so responsibly.

The Safety Alert Symbol combined with a Signal Word, as seen below, is used throughout this manual and on decals which are attached to the equipment. The Safety Alert Symbol means: “ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!” The Symbol and Signal Word are intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this equipment.

Practice all usual and customary safe working precautions and above all---remember safety is up to YOU. Only YOU can prevent serious injury or death from unsafe practices.

⚠ DANGER Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.

⚠ WARNING Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.

⚠ CAUTION Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

NOTE: *Identifies points of particular interest for more efficient and convenient operation or repair.* (SG-1)

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2)

⚠ PELIGRO Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)

© 2013 Alamo Group Inc.

DRIVER SAFETY INSTRUCTIONS AND PRACTICES

⚠WARNING

The operator of the Truck and Patcher must be trained in the operation and safe use of this machine. The operator must read and completely understand the operator's manuals of the Patcher, Truck and Auxiliary engine manufacturers. New operators should be trained in an open area clear of obstructions before operating on public roadways. If operation of the entire Patcher unit (Truck, Auxiliary engine, and Patcher Components) is not completely understood, consult your authorized sales representative for a detailed explanation. Never allow an untrained or unqualified driver to operate the Truck and Patcher. (SWD-01p)

⚠ CAUTION

The Truck driver must meet the requirements and possess a Motor Vehicle License as determined by the state in which the Truck is operated if used on public roadways. Contact your local State Department of Public Safety office for special licensing requirements to operate the Truck in your area. (SWD-2p)

⚠ DANGER

NEVER use drugs or alcohol immediately before or while driving or operating the Truck. Drugs and alcohol will affect an operator's alertness and coordination and therefore affect the operator's ability to operate the Truck safely. Before operating the Truck or Patcher, an operator on prescription or over-the-counter medication must consult a medical professional regarding any side effects of the medication that would hinder their ability to operate the Truck and Patcher safely. **NEVER** knowingly allow anyone to operate this Equipment when their alertness or coordination is impaired. Serious injury or death to the operator or others could result if the operator is under the influence of drugs or alcohol. (SWD-3p)

⚠WARNING

Always wear OSHA approved Personal Protective Equipment (PPE) while operating, servicing, repairing, and/or cleaning the Truck or Patcher. PPE is designed to provide bodily protection during such activities.

Personal Protective Equipment includes:

- Protective Eye Wear
- Steel Toed Safety Footwear
- Gloves
- Hearing Protection
- Close Fitted Clothing
- Hard Hat-When working around a raised hopper.
- Respirator-Depending on conditions and material being swept or cleaned.

Specialized protective equipment may be required if dangerous or hazardous material is being swept by or cleaned.. (SWD-4p)

© 2013 Alamo Group Inc.

SAFETY

⚠ CAUTION

Prolonged operation of the Truck and Patcher may cause operator boredom and/or fatigue affecting the safe operation of the Truck and Equipment. It is recommended that the operator take scheduled work breaks to help prevent these potentially impaired operating conditions. If possible, completely shut down the Truck and Patcher, exit the cab and move around stretching your arms and legs. Never operate the Truck and Patcher in a fatigued or bored mental state that impairs proper and safe operation. (SWD-5p)

⚠ CAUTION

PROLONGED EXPOSURE TO LOUD NOISE MAY CAUSE PERMANENT HEARING LOSS! Patching operation can often be noisy enough to cause permanent hearing loss. We recommend that you always wear hearing protection if the noise in the Operator's position exceeds 80db. Noise over 85db over an extended period of time will cause severe hearing loss. Noise over 90db adjacent to the Operator over an extended period of time will cause permanent or total hearing loss. Note: Hearing loss from loud noise [from patcher's, chain saws, radios, and other such sources close to the ear] is cumulative over a lifetime without hope of natural recovery. (SWD-6p)

⚠ DANGER

Do not operate, or perform maintenance to, the Equipment while wearing loose fitting clothing. Entanglement of loose clothing with the rotating elements can result in serious injury or death. Stay clear of all rotating elements at all times. (SWD-7p)

⚠ DANGER

Do not operate this Equipment with hydraulic oil or fuel leaking. Oil and fuel are explosive and their presence could present a hazard. Do not check for leaks with your hand! High-pressure oil streams from breaks in the line could penetrate the skin and cause tissue damage including gangrene. To check for a hose leak, SHUT the unit ENGINE OFF and remove all hydraulic pressure. Wear oil impenetrable gloves, safety glasses and use Cardboard to check for evidence of oil leaks. If you suspect a leak, REMOVE the HOSE and have it tested at a Dealer. If oil does penetrate the skin, have the injury treated immediately by a physician knowledgeable and skilled in this procedure. (SWG-15p)

OPERATION SAFETY INSTRUCTIONS AND PRACTICES

⚠ WARNING

Perform service, repairs and lubrication according to the maintenance section. Ensure the unit is properly lubricated as specified in the lubrication schedule and all bolts and nuts are properly torqued. Failure to properly service, repair and maintain this Implement in good operating condition could cause component failure and possible serious injury or even death. (SG-35)

© 2013 Alamo Group Inc.

⚠WARNING Avoid contact with hot surfaces of the engine or muffler. Use gloves and eye protection when servicing hot components. Contact with a hot surface or fluid can cause serious injury from burns or scalding. (SG-38)

⚠WARNING Always maintain the safety decals in good readable condition. If the decals are missing, damaged, or unreadable, obtain and install replacement decals immediately. Consult your authorized sales representative for decal replacements. (SWS-1)

⚠ DANGER All Safety Shields, Guards and other Protective Safety devices should be used and maintained in good working condition. All safety devices should be inspected carefully at least daily for missing or broken components. **NEVER REMOVE PROTECTIVE SHIELDS AND GUARDS! NEVER MODIFY OR CUT PROTECTIVE SHIELDS OR GUARDS!** When shields or guards are removed to access areas for maintenance, they must be replaced and be in good condition before operating. Missing, broken, or worn shields, guards, and other protective devices must be replaced at once and prior to operation to reduce the possibility of injury or death from thrown objects, entanglement, or contact. (SWS-2)

⚠ DANGER Use extreme caution when operating the Patcher in traffic. To alert motorist of the Patcher's presence, the Patcher is equipped with warning signals and flashing lights. Optional electrical lights, arrow board, flashers and a warning bar light, strobe, or beacon may be positioned on top of the cab. Use all equipped warning signals to alert motorist and pedestrians of the Patcher's presence and relatively slow speed. Serious injury or death and property damage may occur if a vehicle collides with the Patcher or workers. (SWS-3p)

⚠WARNING Before starting a patching operation, make sure all the warning signal lights are connected, visible and working. Routinely inspect the Equipment's headlights, brake lights, backup lights, and turn signal lights for operational condition. Immediately repair non-functioning lighting. Always follow all local traffic regulations while operating the Patcher. (SWS-4p)

⚠WARNING Always turn on all safety lights and flashers when you operate the Patcher. It is recommended that you preset the beacon/strobe light switches to ON, so lights go on whenever the auxiliary engine is ON and lights go OFF whenever the auxiliary engine is turned OFF. This presetting action has the additional benefit of alerting the operator if the auxiliary engine is inadvertently left ON. (SWS-5p)

⚠WARNING The Patcher must be equipped with a fire extinguisher, rated for all fires, in an accessible and visible area. The fire extinguisher should be inspected routinely by a certified inspector for operational use and replaced as needed. Never obstruct access to the fire extinguisher. (SWS-6p)

⚠WARNING Use available handholds and steps to board or exit the truck. Make sure you have solid footing before stepping down. Be careful of your step and use extra caution when mud, ice, snow, or other matter has accumulated on the steps or handrails. Never rush to exit or jump off the Truck. (SWO-2p)

© 2013 Alamo Group Inc.

SAFETY

⚠ DANGER Do not attempt to mount the Equipment or Truck while the machine is moving. Never attempt to mount a runaway Truck or Trailer. Serious injury or death may occur from being run over by moving Equipment. (SWO-3p)

⚠ DANGER BEFORE leaving the Truck's seat, always engage the parking brake and/or set the Truck's transmission in parking gear, stop the engine, remove the key, and wait for all moving parts to stop. Never dismount a Truck that is moving or while the Truck and Auxiliary engines are running. Operate the Equipment controls from the Truck seat only. (SWO-4p)

⚠ WARNING Always wear a seat belt while driving the Truck during operation and transport. Serious injury or even death could result from falling out of the Truck or from being involved in a collision. (SWO-5p)

⚠ DANGER Start the Truck engine only when seated and belted in the Truck's operator seat. Operate the Engine controls only while properly seated with the seat belt secured around you. Inadvertent movement of the Truck and/or Patcher components may cause serious injury or death to the operator and passersby. Read the Truck and Auxiliary Engine operator's manuals for proper starting instructions. (SWO-6p)

⚠ DANGER Operate the equipment only in conditions where you have clear visibility of the immediate area in daylight or with adequate artificial lighting. Never work in darkness of foggy conditions where you cannot clearly see at least 300 feet in front and to the sides of the Equipment. Make sure that you can clearly see and identify passersby, steep slopes, ditches, drop-offs, overhead obstructions, power lines, oversized debris and foreign objects. If you are unable to see these types of items, discontinue sweeping until visibility improves. If drivers of passing vehicles do not have enough light to clearly see you or co-workers for a least 300 feet discontinue work until visibility improves. (SWO-8p)

© 2013 Alamo Group Inc.

⚠WARNING Transport the Truck only at safe speeds. Serious accidents and injuries can result from driving this Truck at unsafe speeds. Become familiar with the driving characteristics of the Truck and how it handles before operating or transporting on streets and highways. Make sure the Truck's steering, brakes, and wheels are in good condition and operate properly.

Before transporting the Truck and Trailer determine the safe transport speeds for you and the machine. Make sure you abide by the following rules:

- Test the Truck and Trailer at a slow speed and increase the speed slowly. Apply the brakes smoothly to determine the stopping characteristics of the Truck equipped with the Patcher. As you increase the speed of the Truck, the stopping distance increases. Determine the maximum safe transport speed for you and the Truck. When driving down a hill or on wet or rain slick roads, the braking distance increases: use extreme care and reduce your speed. Do not operate the Truck with weak or faulty brakes.
- Obey all traffic laws and regulations. Never exceed the posted speed limit.
- The Trailer has a high center of gravity that may be further increased when carrying a loaded hopper. Use extreme caution when transporting at highway speeds. Slow down for sharp corners to avoid tipping or turning the Truck over.
- Only transport the Truck and Trailer at the speeds determined as safe and which allow for proper control of the machine while driving and stopping during an emergency.
- When operating in traffic, use the Truck's directional indicator or signal lights to indicate your movement. Always use the Truck's flashing signal lights and other equipped warning features to alert motorist of your presence and slow moving speed when working in traffic. **Be Aware of Traffic Around You and Watch Out for the Other Guy**. (SWO-9p)

⚠WARNING When transporting the Trailer between locations, follow all local traffic laws and regulations. Before entering traffic, place the cap on the emulsion nozzle, lock the Patcher boom into the transport position, shut off the auxiliary engine, and disengage all Patcher controls. Disengage all warning signals prior to entering vehicle traffic. (SWO-10p)

⚠WARNING Do not exceed the rated operating speed for the Truck and Auxiliary engines. Excessive operating speeds can cause engine and component failures resulting in possible serious injury or death. (SWO-12p)

⚠WARNING Do not operate the Truck or Patcher if excessive vibration or noise exists. Shut down the Truck and Auxiliary engines. Inspect the equipment to determine the source of the vibration or noise. If components are loose, damaged, or missing, replace them immediately. Do not operate the equipment until all necessary repairs have been performed and the equipment operates smoothly. Operating the equipment with excessive vibration can result in component failure and broken objects being thrown outward at high velocities. To reduce the possibility of property damage, serious injury, or even death, never operate the equipment with missing or damaged components. (SWO-16p)

© 2013 Alamo Group Inc.

⚠WARNING Piled debris, loose aggregate, and emulsion puddles left behind the Patcher might pose a driving hazard to vehicle traffic colliding with the debris or losing traction on the material. It is recommended to post warning signs alerting drivers of the Patcher's presence and the need to reduce vehicle speed. If such hazards remain, the area should be swept to remove any remaining hazards. (SWO-19p)

⚠ DANGER Air enters the fan housing inlet with great force. Caution should be used when the power suction nozzle is being used. To avoid being pulled into the suction nozzle, do not wear loose clothes or position yourself or allow others near the suction nozzle inlet. Possible serious injury could occur from being pulled into the suction nozzle. (SWO-21p)

⚠ DANGER Use extreme caution when operating the pothole patcher. Aggregate, fluids and debris discharge from the emulsion nozzle can fly distances up to 25 feet. Be aware of bystanders vehicles or animals in the area. The emulsion aggregate and debris cause serious injury to the operator, bystanders and animals. Stop the patching operation if any bystander comes within 25 feet of the working nozzle. (SWO-23p)

⚠ DANGER Do not allow the Sweeper to come in contact with potentially dangerous and/or hazardous material. Such hazards may include, but are not exclusively limited to, the following:

- Fire Hazards- Fuel spills, burning material,
- Chemical Hazards- Chemical spills, discarded chemical containers, batteries,
- Biological Hazards- Decaying Carcasses, Biomedical Waste,
- Radioactive Hazards-Radioactive Waste, Radioactive Material,
- Cutting Hazards-Broken Glass, Lumber with Protruding Nails,
- Carcinogenic Materials-Asbestos,
- Corrosive Materials-Batteries, Acids and Bases.

In most areas, these types of material require special handling requirements for safe collection and proper disposal and should not be collected by the Sweeper, nor can they be disposed of in a general landfill site like most swept waste. Contact the appropriate authority for the collection and disposal requirements of such dangerous and/or hazardous material. (SWO-25)

⚠ DANGER Always wear required OSHA approved Personal Protective Equipment (PPE) when coming in contact with and removing potentially dangerous and hazardous material used in the process of patching. Pay close attention to dangerous and hazardous material including, but not exclusively limited to, chemicals, and aggregate. Review the Material Safety Data Sheet (MSDS) for any chemical or materials used in the patching process. Always comply with all handling and PPE requirements listed for the materials being used.. (SWO-26p)

© 2013 Alamo Group Inc.

⚠ DANGER Use extreme care when flushing the emulsion hoses with the pressurized diesel. Any burning object, even as small as a lit cigarette, has the potential of igniting the diesel and possibly destroying the equipment and inflicting serious injury or death to the operator or passersby. Never allow any open flame or anyone to smoke near equipment when using the patcher. When flushing the emulsion hoses. Never allow the diesel or emulsion to be spayed onto a heated surface, smoldering substance or near any open flames. (SWO-27p)

⚠ WARNING Verbal communication near the Equipment may be difficult and dangerous while near traffic or with the engines running. Operating instructions and directions should be made prior to starting the Equipment. Unclear and misunderstood communication may lead to operator and bystander injury or death and equipment damage. If communication to the bystander by the operator is necessary, completely shutdown the Equipment. Never allow anyone to approach the Equipment while in operation. (SWO-28p)

⚠ DANGER Never allow children to play on, under, or around the Equipment nor allow children to operate Equipment controls. Children can slip or fall off the Equipment and be injured or killed. Children can cause the components to shift or fall crushing themselves or others. (SWO-29p)

⚠ WARNING Allow passengers only in situations where their presence is involved in the Equipment operation (operator training, supervision, maintenance inspection). Never carry passengers whose presence distracts from the safe operation or transport of the Sweeper. Passengers must be seated securely and belted in the Truck cab's passenger seat. Never allow any person to ride on any other location of the Equipment during operation or transport.(SWO-30p)

⚠ WARNING Extreme caution should be used by the operator when operating near passersby. Stop patching if anyone comes within 25 feet of the emulsion nozzle to prevent possible passerby injury or death from being struck from a thrown object, contact with the heated emulsion, or run over. (SWO-31p)

⚠ WARNING Make sure that no co-worker, bystander, animal or obstruction such as a vehicle, building, or street sign are behind the Truck or Trailer when backing up. The design of the Truck and/or Trailer impairs operator rear vision when backing. Use extreme caution to ensure that the Equipment is not backed into the path of pedestrian or vehicle traffic. Serious injury or death and property damage could result from running into, being crushed by, or run over by a Sweeper. (SWO-33p)

⚠ DANGER Do not start the auxiliary engine with the shields or guards missing. Entanglement with the components can result in bodily injures. (SWO-36p)

⚠ DANGER Stay clear of pinch points when handling boom. Serious finger or hand injuries can occur at the pinch point of the boom when you are extending or retracting the boom. Keep your hands away from the pinch point areas. (SWO-39p)

© 2013 Alamo Group Inc.

WARNING Avoid body contact with collected debris in the hopper. Use protective clothing including gloves and eye protection when servicing or working in or around hopper. Aggregate and debris in the hopper can cut or puncture resulting in serious bodily injuries and the transmittal of diseases. (SWO-42p)

WARNING Avoid body contact with emulsion chemicals. Use protective clothing including gloves and eye protection when servicing or working in or around the emulsion tank or emulsion nozzle. Contact with Heated Emulsion can result in serious bodily injuries. (SWO-43p)

WARNING Relieve pressure in emulsion tank before attempting to open the lid for inspection or filling. Failure to release pressure before removing the emulsion tank lid could result in heated emulsion chemicals escaping under pressure toward the individual attempting to remove the lid. Always wear protective clothing including gloves and eye protection when servicing or working in or around the emulsion tank. Contact with heated emulsion under pressure can result in serious bodily injuries.. (SWO-44p)

WARNING Relieve the pressure in Diesel flushing tank before attempting to open the tank cap for inspection or filling. Failure to release pressure before removing the cap could result in diesel fuel being sprayed in the air and toward the operator. Fire or explosion can result from diesel sprayed on to hot surfaces. Always wear protective clothing including gloves and eye protection when servicing or working in or around the diesel tank. (SWO-45p)

WARNING Do not disable the diesel tank cap block lever located on the Diesel flushing tank. The cap lock lever requires the operator to relieve the air pressure in the tank before the cap can be removed. Failure to release pressure before removing the cap could result in diesel fuel being sprayed in the air and toward the operator resulting in fire or explosion. Always wear protective clothing including gloves and eye protection when servicing or working in or around the diesel tank. (SWO-46p)

WARNING Keep co-workers and bystanders 25 feet away from the hopper when aggregate is being loaded into the hopper. Falling aggregate and debris can cause serious injury if it falls on to a person. (SWO-47p)

WARNING Make sure you are using the correct voltage and adapter when connection the external electrical power to the auxiliary electric heater. Only use the proper size electrical cords to power the heater. Do not use spliced or damaged electrical cords or adapters. An electrical short could result in fire, serious injury or death. (SWO-48p)

WARNING Before disconnecting the trailer from the truck, place blocks or wheel chocks between the trailer to prevent inadvertent movement of the trailer while it is disconnect. Do not remove the blocks until the trailer is reattached to a towing vehicle. Serious injury or death can result from sudden movement of an unrestrained trailer. (SWO-50p)

© 2013 Alamo Group Inc.

⚠WARNING Do not overfill hopper with aggregate. Over filling can cause aggregate to fall on co-workers and bystanders. Falling aggregate and debris can cause serious injury if it falls on to a person. Spilled aggregate can result in the operator or co-workers slipping, tripping or falling resulting in serious injuries. (SWO-51p)

⚠WARNING N**ever unhitch the Trailer without using the Tongue Jack.** The Tongue is very heavy. Attempting to lift the Tongue without using the Tongue Jack could **cause strains or other injury**. Allowing the tongue to **fall suddenly and unexpectedly** could result in **crushing injury.** Use the **Tongue Jack for lifting the Trailer only**. Overloading the Tongue Jack can cause failure with possible **serious bodily injury or even death**. (SWO-52p)

⚠WARNING Only tow the Trailer behind a properly sized and equipped Truck which exceeds the weight of the loaded trailer by at least 20% and is equipped with appropriate trailer brake controls. (SWO-53p)

MAINTENANCE AND SERVICE SAFETY INSTRUCTIONS AND PRACTICES

⚠WARNING Periodically inspect all moving parts for wear and replace when necessary with authorized service parts. Look for loose fasteners, worn or broken parts, and leaky or loose fittings. Make sure all pins have cotter pins and washers. Serious injury may occur from not maintaining this Patcher in good working order. (SWM-1p)

⚠WARNING Inspect the entire Sweeper before each use. Accidents may occur or damage to the Patcher may result if the Patcher is not maintained in good mechanical working order.

- Check for loose bolts, worn or broken parts, pinched hydraulic hoses, and leaky or loose fittings.
- Make sure all pins are secure and safety pins equipped.
- Make sure hose covers are in place and the insulation is in good shape.
- Make sure all fluid levels are full and replenish as necessary.
- Make sure fuel, oil, and coolant caps are replaced and tightened.
- Make sure that the emulsion tank cap is securely in place.
- Check tire condition for tread wear and tire pressure at the rated PSI.
- Make sure that all safety shields and guards are attached and in good condition.
- Make sure the warning light s are functioning properly.
- Make sure all scheduled maintenance is up to date. (SWM-2p)

© 2013 Alamo Group Inc.

⚠WARNING Do not modify or alter this Patcher Do not permit anyone to modify or alter this Patcher, any of its components or any Patcher function. (SWM-3p)

⚠ DANGER Use extreme care when climbing onto the Equipment to perform repairs, maintenance, and cleaning. Use proper stands and ladders to access areas that cannot be reached from ground level. Slipping and falling off the Equipment can cause serious injury or death. (SWM-4p)

⚠ DANGER Never attempt to repair, lubricate, adjust, clean, remove obstructions or perform any other type of service to any component while the Auxiliary and/or Truck engine is running. Completely shut down the Patching components and the Truck and Auxiliary engines and wait for all motion to come to a complete stop before servicing the Patcher. Remove the keys and disable any remote starting systems. Allow time for the heated fluids and components to cool to a level that is safe to handle before attempting to service the components. (SWM-5p)

⚠ DANGER Never leave the Patcher unattended while the Patcher engine is running. Accidental operation of the control levers or a hydraulic failure may cause a sudden movement or operation of the unit which could result in injury or death. (SWM-6p)

⚠ DANGER Never crawl or work under the hopper bin while the hopper door is open. Aggregate or hopper contents could fall on you resulting in serious injury or death by crushing or suffocation. (SWM-7p)

⚠WARNING Use proper protective equipment (gloves, safety eyewear, face shield, arm protection, possible respirator or particle mask) when handling the emulsion and heated components during filling, replacement, adjustment, and maintenance. The emulsion, heated fluids, and components can result in serious injury to the hands, arms, and/or eyes if proper protective equipment is not worn. (SWM-8p)

⚠ DANGER Never crawl under any raised unless the component is securely supported or blocked up and hydraulic pressure relieved. Accidental operation of the lifting lever or hydraulic failure may cause a sudden drop of the unit with possible injury or death by crushing. (SWM-9p)

⚠WARNING Never remove the Patcher air, heater, or emulsion hoses to perform repairs or maintenance while the Patcher or truck engines are running. Objects propelled from an open hose at a high velocity could cause serious injury. Always shut down the Truck and Auxiliary engines completely and wait for all motion to come to a complete stop before working on any Patcher component. Allow sufficient time for the heated fluids and components to cool before attempting to service them. (SWM-10p)

© 2013 Alamo Group Inc.

⚠ DANGER Escaping pressurized hydraulic oil generated by hydraulic pumps has the potential to inflict serious injury and possible death. Never attempt to repair a pump or hose or tighten a connection while the system is pressurized. Always shut down the Truck and Auxiliary engines and relieve hydraulic oil pressure before performing any repairs to the hydraulic system. (SWM-11p)

⚠ WARNING Water pressure generated by the water pump has the potential to inflict serious injury. Never attempt to repair a pump or hose or tighten a connection while the system is pressurized. Always shut down the Truck and Auxiliary engines and relieve water pressure before performing any repairs to the high pressure water system. Allow sufficient time for the water to cool be attempting repairs. (SWM-13p)

⚠ DANGER NEVER work on or near any engine component that has generated heat until it has cooled down. Use extra caution around the exhaust manifold near the water valve and the turbo charger manifold tubes. NEVER check or replenish the fluid levels of the Truck and Auxiliary engine coolant or hydraulic circuit oil levels until sufficient time has passed (up to 2 hours) to allow the system to cool down. Contact with a hot engine component or operating fluid may result in serious injury from burns, scalding and possible death. (SWM-14p)

⚠ WARNING Use extreme care when attempting to remove debris from or unclog jams in the air & aggregate hoses. Always wear PPE including safety glasses when removing or unclogging the hoses. Serious injury may occur if aggregate or debris is suddenly thrown from the end of the hose or a hose rupture. (SWM-15p)

⚠ WARNING Use extreme caution when working in confined areas of the hopper bin or emulsion tank for an extended period of time. Confined work areas may pose a danger because of the physical constraints imposed on the body. Routinely exit the confine to stretch and correct posture to prevent physical stress imposed on the body before bodily injury occurs. (SWM-16p)

⚠ DANGER Use extreme caution when refueling. Diesel fuel is highly combustible and explosive if not handled safely. Always follow these precautions to reduce the dangers involved in refueling:

- Completely shut down the Truck and Auxiliary Engines before refueling.
- Do Not refuel while smoking or near an open flame.
- Do Not store Patcher with fuel in the tank in a building where fumes can reach an ignition source.
- To prevent a fire and explosion caused by static electric discharge while filling the tank, use a plastic funnel. Avoid using a funnel that has a metal screen or filter.
- Avoid spilling fuel. Fuel is expensive and can damage plastic and painted surfaces. Clean up spilled fuel immediately.
- Store fuel and all oils at a site protected from moisture, dirt, and other contaminants. (SWM-18p)

© 2013 Alamo Group Inc.

⚠ DANGER Never run the Truck or Auxiliary engine in a closed building or without adequate ventilation. The exhaust fumes can be hazardous and deadly to your health. If it is necessary to run the Truck or Auxiliary engine in an enclosed area, remove the exhaust fumes from the area to the outdoors with an exhaust pipe extension. If you do not have an exhaust pipe extension, or if it is not possible to use one, open doors and circulate outside air into the area. (SWM-19p)

⚠ WARNING Engine Exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. (SWM-20)

⚠ WARNING Always read carefully and comply fully with the manufacturer's instructions when handling fuels, oils, solvents, cleansers, and any other chemical agent. (SWM-22)

⚠ WARNING Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the state of California to cause cancer and birth defects or other reproductive harm. Wash Hands after handling. (SWM-23)

⚠ WARNING Avoid contact with hot surfaces on the emulsion nozzle and heated components. Use gloves and eye protection when servicing hot components. Contact with a hot surface can cause serious injury from burns or scalding. (SWM-24p)

⚠ WARNING Remove the negative battery cable from the battery before performing any maintenance on the electrical system to prevent an accidental circuit shorting and sparks. Sparks can result in wiring damage, fire or personal injury. (SWM-25)

⚠ DANGER Use caution when working around the hopper doors. Do not let the doors fall uncontrolled onto bystanders or coworkers. Use the door locks to hold the doors open while cleaning or performing maintenance. (SWM-26p)

⚠ WARNING Before conducting maintenance on the Patcher stop the truck, place the transmission in park and set the parking brake. Turn the Truck engine and the auxiliary engine off and remove the keys and disengage any remote starting systems to prevent inadvertent or accidental starting of the engines. Unexpected engine start up or truck movement can result in serious bodily injuries or death. (SWM-27p)

⚠ DANGER Do not inspect or approach the engine fans while they are rotating. Serious bodily injury including dismemberment can result. Shut down the Truck and Auxiliary engines and wait for all rotating motion to stop completely before attempting to inspect or perform maintenance on or near the fans. (SWM-28p)

© 2013 Alamo Group Inc.

DANGER Inspect the trailer safety tow chains to make sure they are in good condition and properly attached to the towing vehicle. Do not tow the trailer unless the safety chains are attached to the towing vehicle. (SWM-29)

DANGER Never work under the framework, or any lifted component unless it is securely supported or blocked up to prevent sudden or inadvertent falling which could cause serious injury or even death. (SWM-31p)

DANGER Make sure the auxiliary electric heater and thermostat are working properly. Do not use the heater if the electrical wires are damaged or the thermostat is malfunctioning. Repair any damaged wires or thermostat before leaving the heater unattended. Do not use spliced or damaged electrical wiring or adapters. An electrical short could result in fire, serious injury or death. (SWM-32p)

WARNING When recharging the Battery, make sure the access door is open. Connect the charger to the battery according to the battery chargers instructions and follow the chargers instructions. Do not use the charger if the electrical wires are damaged. Do not allow explosive gases from the charging process to accumulate in the equipment housing. An electrical spark could result in fir or an explosion causing serious injury or death (SWM-34p)

DANGER Never use gasoline or other flammable materials to clean parts.

Always follow these precautions to reduce the dangers involved in cleaning parts:

- Completely shut down the Truck and Auxiliary Engines.
- Let hot and heated parts cool before cleaning.
- Do Not Smoke.
- Use only nonflammable cleaning solvents.
- Dispose of cleaning solvents properly. (SWM-35p)

© 2013 Alamo Group Inc.

PARTS INFORMATION

In addition to the design and configuration of this Patcher, including Safety Signs and Safety Equipment, hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of personnel involved in the operation, transport, maintenance, and storage of the machine. Refer also to Safety Messages and operation instruction in each of the appropriate sections of the Truck and Auxiliary Engine Manuals. Pay close attention to the Safety Signs affixed to the Patcher. (SWG-5p)

PARTS INFORMATION

Schwarze uses balanced and matched system components for Patcher. These parts are made and tested to Schwarze specifications. Non-genuine or “will fit" parts do not consistently meet these specifications. The use of non-genuine or “will fit” parts may reduce Patcher performance, void Patcher warranties, and present a safety hazard. Use genuine Schwarze Patcher parts for economy and safety. (SWG-06p)

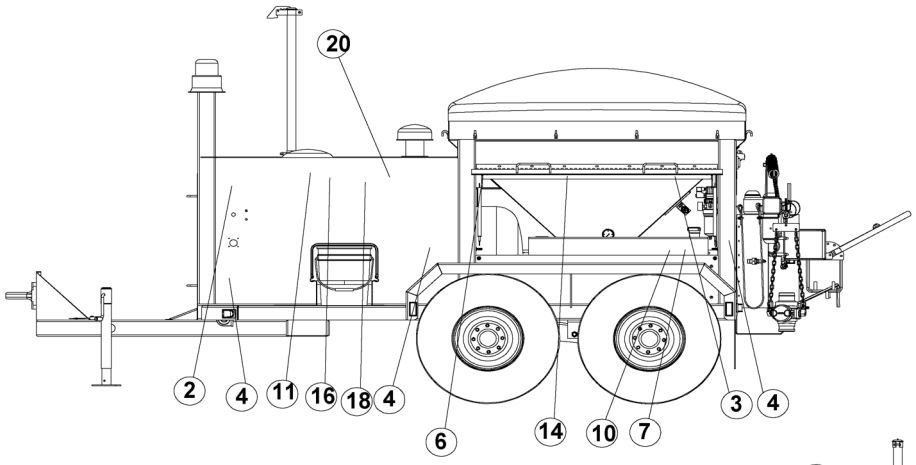
SEE YOUR LOCAL SCHWARZE DEALER

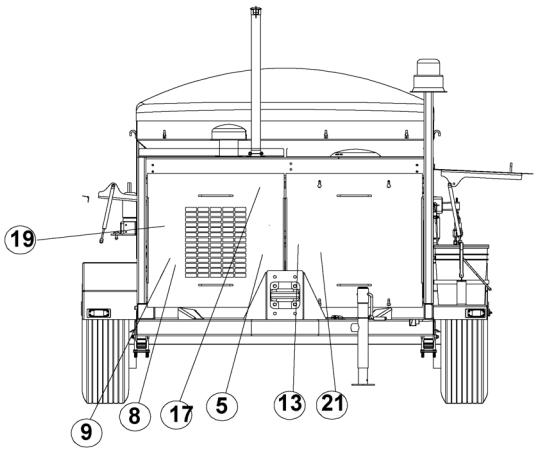
Schwarze Web Page

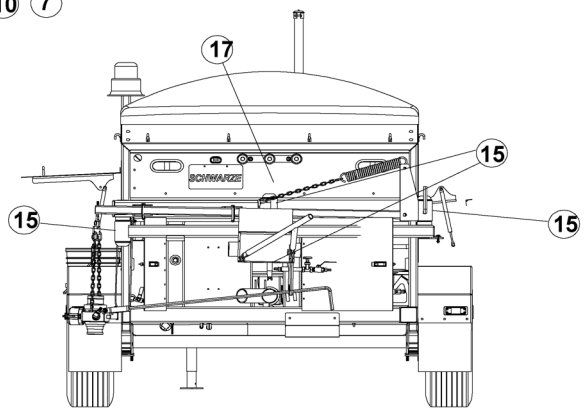
© 2013 Alamo Group Inc.

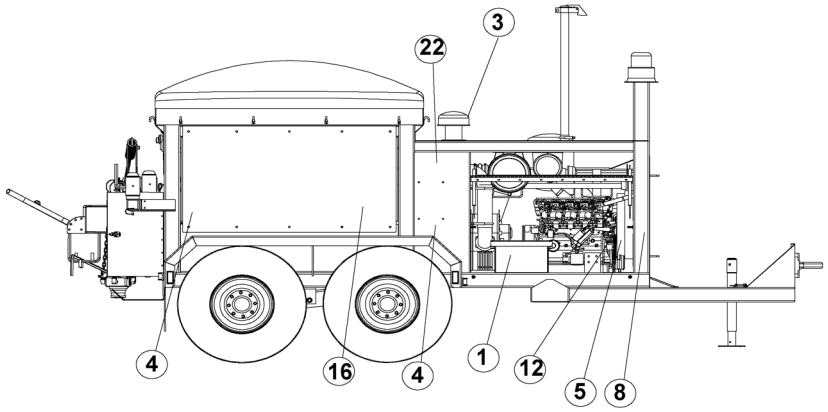
Decal Location

NOTE: *Schwarze supplies safety decals on this product to promote safe operation. Damage to the decals may occur while in shipping, use, or reconditioning. Schwarze cares about the safety of its customers, operators, and bystanders, and will replace the safety decals on this product in the field, free of charge (Some shipping and handling charges may apply). Contact your Schwarze dealer to order replacement decals*.









DL-SSP-001

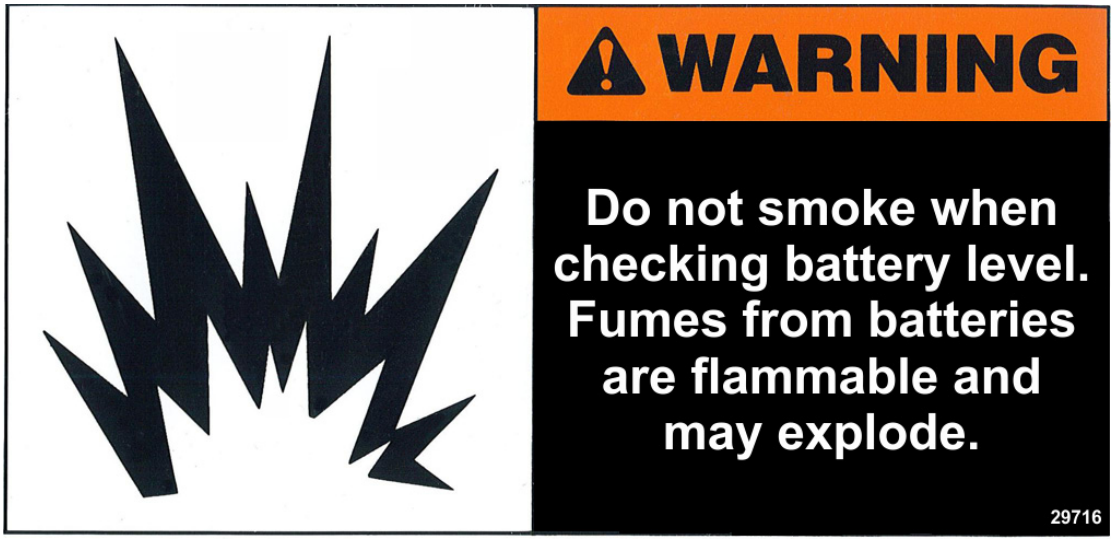
© 2013 Alamo Group Inc.

ITEM	PART NO.	QY	TYPE	DESCRIPTION
1.	29716	1	WARNING	No Smoking when Checking Battery
2.	29718	1	WARNING	110/220 Volts
3.	29722	2	INSTRUCT	Patching Procedures
4.	21078	5	CAUTION	Watch Your Step
5.	29708	2	WARNING	Belt Guard Missing
6.	21074	1	INSTRUCT	Lubrication
7.	29711	2	CAUTION	Use Diesel Fuel Only
8.	29709	2	CAUTION	Pressure Relief
9.	22891	1	WARNING	Keep Away from Fan
10.	29717	2	WARNING	No Smoking when refueling
11.	29713	2	INSTRUCT	Emulsion Valve Control
12.	29729	1	WARNING	Use/Repair Shields
13.	22533	1	CAUTION	Hydraulic Oil
14.	29639	1	IMPORTANT	Use Genuine Schwarze Parts
15.	29714	5	INSTRUCT	Grease Points
16.	21090	2	WARNING	Tank Under Pressure
17.	29710	2	DANGER	Machine Can Hurt You
18.	29730	1	WARNING	Contents Under Pressure
19.	29712	1	DANGER	Rotating Fan
20.	29719	1	INSTRUCT	Emulsion Control
21.	29715	1	INSTRUCT	Hydraulic Fluid Only
22.	21077	1	CAUTION	Read Service Manual

© 2013 Alamo Group Inc.

Decal Description

© 2013 Alamo Group Inc.



© 2013 Alamo Group Inc.

LUBRICATION & MAINTENANCE

(SEE TRUCK MANUAL FOR ADDITIONAL MAINT.)

DAILY OR EVERY 8 HOURS

CHECK TRUCK ENGINE OIL
CHECK HYDRAULIC OIL
LUBRICATE CONVEYOR BEARINGS & FEEDER CHAIN
LUBRICATE BOOM FITTINGS

WEEKLY OR EVERY 40 HOURS

CHECK & CLEAN BLOWER INTAKE FILTER

MONTHLY OR EVERY 160 HOURS

CHANGE TRUCK ENGINE OIL
CHECK BLOWER OIL LEVEL
INSPECT HOSES FOR WEAR (INC. HYDRAULIC)
ROTATE DELIVERY HOSE 1/4 TURN

6 MONTHS OR 1000 HOURS

REPLACE HYDRAULIC OIL FILTER

YEARLY OR 2000 HOURS

REPLACE HYDRAULIC OIL
REPLACE BLOWER OIL

21074

© 2013 Alamo Group Inc.

© 2013 Alamo Group Inc.

© 2013 Alamo Group Inc.

© 2013 Alamo Group Inc.

© 2013 Alamo Group Inc.

Federal Laws and Regulations

This section is intended to explain in broad terms the concept and effect of federal laws and regulations concerning employer and employee equipment operators. This section is not intended as a legal interpretation of the law and should not be considered as such.

Employer-Employee Operator Regulations

U.S. Public Law 91-596 (The Williams-Steiger Occupational and Health Act of 1970) OSHA

This Act Seeks:

"...to assure so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources..."

DUTIES

Sec. 5 (a) Each employer-

(1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;

(2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA Regulations

OSHA regulations state in part: "At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all equipment with which the employee is, or will be involved.

Employer Responsibilities:

To ensure employee safety during Truck and Patcher operation, it is the employer's responsibility to:

1. Train the employee in the proper and safe operation of the Truck and Patcher.
2. Require that the employee read and fully understand the Truck and Patcher Operator's manual.
3. Permit only qualified and properly trained employees to operate the Truck and Patcher.
4. Maintain the Truck and Patcher in a safe operational condition and maintain all shields and guards on the equipment.
5. Ensure the Truck is equipped with a functional seat belt and require that the employee operator securely fasten the safety belt at all times.
6. Provide the required tools to maintain the Truck and Patcher in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.

OSHA 1910.147(c)(1) Energy Control Program

The employer shall establish a program consisting of energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered inoperative.

OSHA 1926.417 Lockout and Tagging

(a) *Controls.* Controls that are to be deactivated during the course of work on energized or de-energized equipment or circuits shall be tagged.

(b) *Equipment and Circuits.* Equipment or circuits that are de-energized shall be rendered inoperative and shall have tags attached at all points where such equipment or circuits can be energized.

OSHA 1926.600(a)(3)(ii)

Whenever the equipment is parked, the parking brake shall be set. Equipment parked on inclines shall have the wheels chocked and the parking brake set.

Employee's Responsibilities:

Remove the truck keys and keep them in your pocket before performing any service, maintenance, cleaning or before any person enters into equipment hopper. The Truck engine controls must be shut off and prevented from accidental activation.

1. Follow all safety rules and regulations.
2. Use all safety equipment as prescribed in Operator's Manual.
3. Report any unsafe conditions.
4. Be aware of and protect the safety of coworkers or others in vicinity.

© 2013 Alamo Group Inc.

Hazard Communication and MSDS Information.

OSHA requires the employer to inform the employee of the potential hazards associated with the chemicals and materials that the employee may contact. This includes, but is not limited to, the diesel fuel, emulsion chemicals, hydraulic oil, radiator coolant, and treated aggregate. The Employer must provide annual training for the employee in Material Safety Data Sheets (MSDS), the location of the MSDS sheets, how to read and understand the MSDS information and the PPE requirements when using the chemicals.

Proper Disposal of Hazardous Waste Materials.

EPA regulations require the proper disposal of any hazardous chemicals and waste material. This includes, but is not limited to, the diesel fuel, emulsion chemicals, hydraulic oil, radiator coolant, and treated aggregate. Ensure that the employees and operators fully understand and comply with their responsibilities for the handling and proper disposal of any hazardous waste materials involved with the use of the Patcher.

© 2013 Alamo Group Inc.

INTRODUCTION SECTION

© 2013 Alamo Group Inc.

INTRODUCTION

We are pleased to have you as an Schwarze customer. Your Load King™ Spray Patcher has been carefully designed with care and built with quality materials by skilled workers to give maximum service with minimum down time. This manual is provided to give you the necessary operating and maintenance instructions for keeping your patcher in top operating condition. Careful use and timely service saves extensive repairs and costly downtime losses.

The purpose of this manual is to familiarize, instruct, and train. Please read this manual thoroughly. The Operations and Maintenance sections of the manual trains the owner/operator how to work the Spray Patcher correctly and attend to appropriate maintenance. The Trouble-Shooting Guide helps diagnose difficulties with the patcher and offers solutions to the problems.

Safety is of primary importance to the owner/operator and to the manufacturer. Observe all safety precautions decaled on the machine and noted throughout the manual for safe operation of implement. If any assistance or additional information is needed, contact your authorized Schwarze dealer. The owner/operator/dealer should know and understand the Safety Messages before assembly and be aware of the hazards of operating this patcher during assembly, use, and maintenance. The Safety Alert Symbol combined with a Signal Word, as seen below, is intended to warn the owner/operator of impending hazards and the degree of possible injury faced when operating this machine.

⚠ DANGER Indicates an imminently hazardous situation that, if not avoided, WILL result in DEATH OR VERY SERIOUS INJURY.

⚠ WARNING Indicates an imminently hazardous situation that, if not avoided, COULD result in DEATH OR SERIOUS INJURY.

⚠ CAUTION Indicates an imminently hazardous situation that, if not avoided, MAY result in MINOR INJURY.

Important Identifies special instructions or procedures that, if not strictly observed, could result in damage to, or destruction of the machine, attachments or the environment.

To obtain the best use of the patcher's equipment, we strongly recommend that the operator be required to thoroughly read, understand and follow all of the applicable information in this Manual prior to and during the operation of this patcher. Daily cleaning and strict adherence to other unit's routine maintenance schedules are major factors in keeping your unit in like-new condition. Ensuring that service personnel and operators become familiar with the information unique to this make and model of patcher will greatly contribute to cost-effective operation and many years of quality service.

Our goal at Schwarze Industries is always, 100% customer satisfaction. We're confident you'll find this new patcher to be the best built on the market, and it's backed by a company with a service commitment that's second to none. If you need help, don't hesitate to call. Many ideas for improvements to previous models have come from users in the field. If you have an idea or suggestion on how we might make our product even better, please let us know by calling toll free, 1-800-879-7933.

© 2013 Alamo Group Inc.

FC-SSP-0001

Schwarze Web Page

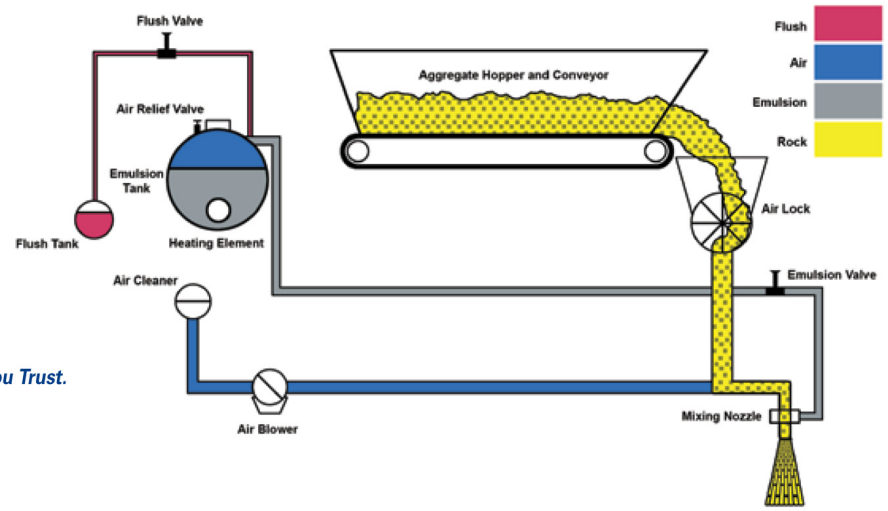
The Schwarze Load King™ Spray Patcher is Self-contained Road and Asphalt Repair Patcher which does not require the use of special tow vehicles over 1 ton. The Schwarze Spray Patcher Load King™ unibody enclosure protects the components from the elements, but allows easy maintenance access through the large access doors. During operation the Emulsion Heating System engine coolant keeps the emulsion at, or near 150 degrees which allows cold temperature operation. The optional vacuum feature allows removal of water and debris from potholes before patching to achieve a longer lasting and more durable repair. The Load King™ achieves a 95% compaction rate without the use of compactors based on the Strategic Highway Initiative Testing and allow for immediate traffic flow. Controls are boom mounted which allows all patching functions to be controlled without leaving the boom. The 100 Gallon Emulsion Tank means fewer refills during the day for better productivity. Mix on demand eliminates the end users dependency of commercially premixed materials in the 2.0 Cubic Yard Aggregate Hopper, 2 hoppers for rock per 1 tank of emulsion on average. There are no butt connectors. All connections are soldered which increases uptime with the use of severe duty wiring that eliminates shorts caused by poor connections. Custom made-to-order Hydraulic Hoses reduce the opportunity for contamination in the Hydraulic System. Computer controlled cutting and forming process guarantees a consistent cut part every time. Hydraulic leveling boom produces ease of operation, and reduces physical stress on the operator This unit uses a high mount Strobe Light which alerts oncoming traffic of patching operation. LED Lighting increases visibility on the streets, and reduced cost of ownership.

Come to the people you know, for the products you trust. Schwarze people are on duty to support you and your equipment. Call toll free, 1-800-879-7933.

© 2013 Alamo Group Inc.

INTRODUCTION

SPECIFICATIONS/FEATURES



The People You Know. The Products You Trust.

Repairs:

- Potholes
- Alligator Cracks
- Utility Cuts
- Shoulder Work
- Depressions

General:

Self-contained unit carries its own aggregate and emulsion, and can be towed with a one-ton pickup.

2.0 cubic yard aggregate hopper eliminated need for dump truck

Durable unibody construction for years of operation

Optional vacuum feature allows removal of water and debris from pothole before making repair

Auxiliary Engine

Manufacturer	Isuzu
Model	4LE1
Number of Cylinders	4 (water cooled)
Horsepower	49.6 @ 2600 RPM
Starting System	Electric
Charging System	12 volt; 35 amp
Fuel Tank	40 gallons

Blower System

Type	Lobe-Type Air Blower
Drive	Direct Drive
Output	435 CFM
Dimensions	4" x 6" (102 mm X 152.4 mm)

Aggregate Delivery Hose

Type	Rubber lined, abrasion resistant, spiral reinforced, non-kinking hose
Inner Diameter	3 ½"
Hose Length	19'

Aggregate Hopper Body

Capacity	2.0 Cubic Yards (1.529 m3)
Fill Opening Length	5' 3"
Fill Opening Width	5' 3"
Aggregate Cover	Nylon/Neoprene Tarp
Aggregate Conveyance	Gravity fed with vibration assist
Construction	10 Gauge Steel

Emulsion Storage & Delivery

Emulsion Capacity	100 gallons
Delivery System Pressure	70 PSI
Heating Element	110 volt, 2,000 watt thermostatically controlled
Delivery Nozzle Temp	160° F
Flush Tank Capacity	30 gallon

Safety Equipment

Lighting	Amber beacon light
Signage	Slow moving vehicle emblem warning triangle Optional directional arrow board
Alarm	backup alarm
Fire	5 lb. fire extinguisher

Paint

Application	one coat sealer/primer two coats polyurethane
Brand	DuPont Imron
Color	Standard Yellow

Warranty

The Spray Patcher Load King road patching system is guaranteed to be free from defects due to faulty materials and/or workmanship for a period of 12 months, or 1200 hours. The auxiliary engine is guaranteed to be free from defects due to faulty materials and/or workmanship for a period of 24 months or 2000 hours, whichever occurs first from date of delivery. Liability is limited to replacement of defective parts at factory or authorized dealer.

INTR-SSP-0001

© 2013 Alamo Group Inc.

Customer Assistance

Schwarze Industries is noted for its commitment to customer satisfaction. In addition to many Authorized Dealers located throughout the country. Schwarze Industries also maintains a fully stocked factory service center in Huntsville, Alabama. In the event you need parts or service, call your nearest Authorized Dealer. Their name and number can be found on the Spray Patcher Information Sheet, located in the front of this manual.

In the unlikely event that your local dealer is unable to provide the assistance you require, call us at our home office in Huntsville, Alabama. We have a state-of-the-art fabrication and production facility and a complete service and refurbishing center with an inventory of over $500,000 in spare parts. In most cases, same day shipping and overnight delivery is available.

To speak with our parts team representatives, call 1-800-879-7934. To assure prompt delivery and processing of your parts order, please have the following information ready before calling:

- Type and serial numbers for the chassis, power module engine and the sweeping unit. (This information is also located on the Sweeper Information Sheet in the front of this manual).
- The part number(s), description(s) and the quantity desired. (Please indicate any relevant particulars such as whether the part is for the right or left, front or rear)
- Shipping instructions: Tell us how you want you order shipped (e.g., next day air, second day air, truck, freight, etc.). When left unspecified, orders are shipped UPS. Truck freight is used when weight restrictions apply.

Every effort is made to ship all in-stock parts on the same day the order is placed when received before 12:00 noon Central Time. Orders received after noon are shipped on the following business day.

For customer convenience, orders may be faxed to the Schwarze factory 24 hours per day. The parts department's fax number is 1-256-851-1199

Schwarze Warranty Information

When a Schwarze Load King Spray Patcher is purchased, it is important that all warranty forms for the chassis, sweeper, and auxiliary engine be filled out and sent to the appropriate component manufacturer. Failure to do so may result in costly delay or denial should a warranty claim be made.

Warranty claims are handled by our parts department, Before any warranted parts may be returned for warranty credit, however, authorization by a Schwarze representative must first be obtained. Also, once the authorization has been granted, the defective part MUST be returned to us. This policy allows for efficient parts shipping and account crediting.

For your convenience, we accept MasterCard and Visa. If credit card payment is not used, orders will be shipped C.O.D. unless prior arrangements have been made with our accounting department.

Once received, shipments should be examined immediately. Any shortage or damage should be noted on the freight bill or express receipt BEFORE the parts are accepted from the carrier. Immediate notification to us of such shortage or damage is also required.

If you still have questions with the service or operation of your sweeper after consulting the maintenance and troubleshooting sections of this manual, call us toll-free and we will provide you with additional instruction.

At Schwarze Industries we are truly committed to your complete satisfaction with our products and services. If you have any suggestions, please call our toll-free number: 1-800-879-7933. We are only a toll-free phone call away.

© 2013 Alamo Group Inc.

OPERATION SECTION

OPERATION

LOAD KING SPRAY PATCHER
OPERATION INSTRUCTIONS

The Load King™ Spray Patcher is manufactured with quality material by skilled workers. The unit equipped with safety warning decals, and safety features to provide operator and passerby protection, however, no shielding is 100% accurate. ALL safety equipment and safety warning decals must be maintained on the unit in good operational condition at all times.

It is the operator's responsibility to be knowledgeable of all potential operating hazards and to take every reasonable precaution to ensure oneself, others, animals, and property are not injured or damaged by the unit.

This section of the Operator's Manual is designed to familiarize, instruct, and educate operators to the safe and proper use of the Spray Patcher Pictures contained in this section are intended to be used as a visual aid to assist in explaining the operation of a Unit. The operator must be familiar with the Unit and operation and all safety practices before beginning operation. Proper operation, as detailed in this manual, will help ensure years of safe and satisfactory use of the Spray Patcher.

READ, UNDERSTAND, and FOLLOW the following Safety Messages. Serious injury or death may occur unless care is taken to follow the warnings and instructions stated in the Safety Messages. Always use good common sense to avoid hazards. (SG-2)

PELIGRO Si no lee ingles, pida ayuda a alguien que si lo lea para que le traduzca las medidas de seguridad. (SG-3)

© 2013 Alamo Group Inc.

OPERATION

1. OPERATOR REQUIREMENTS

Safe operation of the sweeper is the responsibility of a qualified operator. A qualified operator has read and understands the Spray Patcher and Operator's Manuals and is experienced in patching operation and all associated safety practices. If any part of the operation and safe use of this equipment is not completely understood, consult an authorized dealer for a complete explanation.

If the operator cannot read the manuals for themselves or does not completely understand the operation of the equipment, it is the responsibility of the supervisor to read and explain the manuals, safety practices, and operating instructions to the operator.

1.1 Employer Responsibilities:

1. Train the employee in the proper and safe operation of the Spray Patcher.
2. Require that the employee read and fully understand the Spray Patcher Operator's Manual.
3. Permit only qualified and properly trained employees to operate the Spray Patcher.
4. Maintain the Patcher in a safe operational condition.
5. Ensure the Truck is equipped with a functional seat belt and require that the employee operator securely fasten the safety belt at all times.
6. Forbid the employee operator to carry additional riders in the Truck.
7. Provide the required tools to maintain the Truck and Patcher in a good safe working condition and provide the necessary support devices to secure the equipment safely while performing repairs and service.
8. Require that the employee operator stop patching if bystanders or passersby come within 25 yards.

Child Labor under 16 Years of Age.

Some regulations specify that no one under the age of 16 may operate power machinery. It is your responsibility to know what these regulations are in your own area or situation. (Refer to U.S. Dept. of Labor, Employment Standard Administration, Wage & Home Division, Child Labor Bulletin #102.

2. STARTING THE PATCHER

Before operating the Schwarze Load King, ensure the unit's equipment is working properly and that you are prepared for patching operations by (1) completing the Start-Up Checklist and (2) testing patcher operations.

2.1 Start-Up Checklist for Daily Maintenance

The following PRE-OPERATION Inspection sheet names specific items and areas deserving special attention when you inspect the Spray Patcher. It is not a complete list, however, so you should always complete a PRE-TRIP inspection as required by U.S. Department of Transportation (DOT) regulations.

We suggest that your remove the master copy from this manual and make copies that can be used for regular inspections, and the completed forms can be compiled in a notebook to give you a comprehensive inspection record of your sweeper.

© 2013 Alamo Group Inc.

SPRAY PATCHER PRE-OPERATION Inspection

Patcher ID#:_____ Make:_____

Date:_____ Shift: _____

WARNING **Before conducting the inspection, make sure the truck engine is off, all movement has stopped and the truck is in park with the parking brake engaged. Make sure the Truck is parked on level ground and all movement of sweeper has stopped**

Item	Condition at Start of Shift	Specific Comments if not O.K.
Visually inspect for general condition		
Check the auxiliary engine's oil level		
Inspect auxiliary engine air cleaner		
Check the hydraulic tank fluid level and fill as needed		
Inspect the hydraulic system for leaks and faulty lines		
Inspect blower intake filter		
Inspect the rims and wheel nuts		
Check the tires for wear, damage, and pressure		
Inspect and check the braking system		
Inspect and check the tow chains		
Inspect the exhaust system		
Check the fuel level		
Check the battery		
Inspect all engine drive belts for wear		
Check operation of all lights and beacons		
Verify that all emergency equipment is present		
Review daily maintenance records		
Be sure all lubrication schedules are current		

Operator's Signature:_____

DO NOT OPERATE an UNSAFE SWEEPER

© 2013 Alamo Group Inc.

3. PRE-OPERATION INSTRUCTIONS

1. The Heating Element MUST be covered by the Emulsion level BEFORE PLUGGING IN THE ELEMENT.
2. The pressure in the Emulsion or Flushed Tank MUST be Emulsion or Flushed Tank MUST be released BEFORE CHECKNG OR FILING THE TANK by opening the Pressure Relief Valve.
3. The Emulsion Consult your Emulsion Supplier on Line MUST be flushed at the END OF EACH DAY or before any extended break between patching.
4. Consult your Emulsion Supplier BEFORE MIXING OR SWITCHING EMULSION BATCHES.
5. Never operate the Machine without all Guards in place.
6. If during the patching operation, The Rock flow stops due to delivery hose jamming, the operator must click the **"OFF" Rock Switch** and allow the Blower to clear the hose or manually clear it if necessary.

FC-SSP-0001

© 2013 Alamo Group Inc.

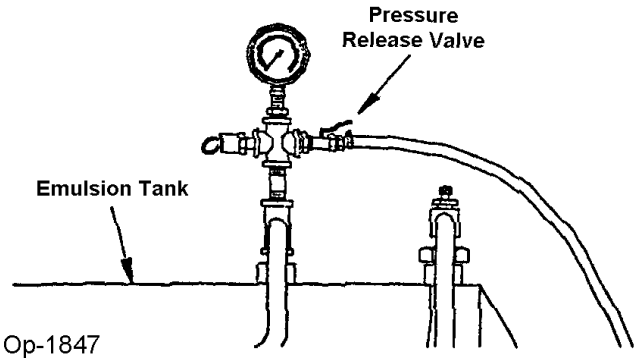
4. PREPARING TO OPERATE SPRAY PATCHER

The aggregate hopper should be filled with a relatively clean 1/4” or 3/8” diameter rock. Larger rock or excessive dust in the aggregate will adversely affect the patching process. Therefore, 1/2” or larger aggregate is not acceptable for this equipment., The screen in the hopper will catch the occasional over-sized rock.

The asphalt tank must be filled with high quality emulsified asphalt. The asphalt should be heated at approximately 165 degrees Fahrenheit, Consult your local distributor compatible products and availability.

⚠ CAUTION Pressure release valve on the top of the tank must be opened before opening the emulsion tank.

⚠ DANGER Damage to Equipment or bodily injury can result from failure to release the emulsion tank pressure.



Op-1847

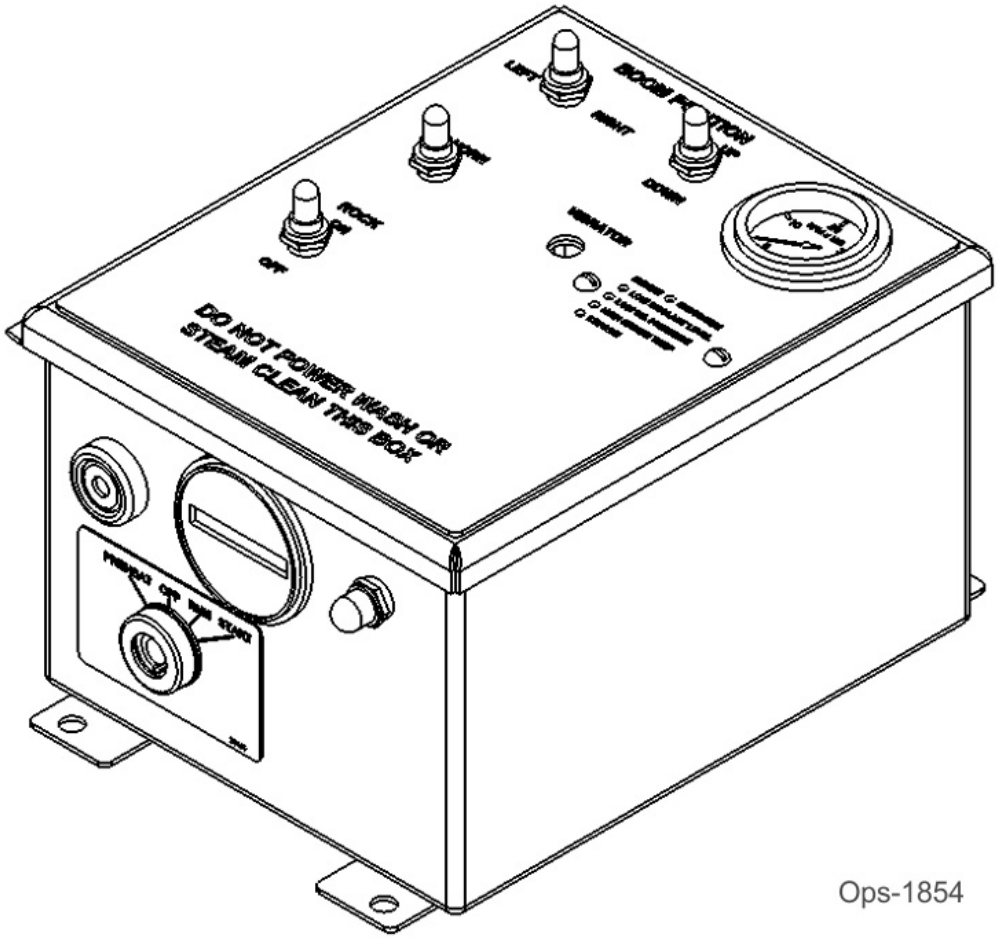
The asphalt will cool during the day’s operation and must be plugged into a 110-volt power source overnight to be reheated. The operator should check with the local asphalt supplier as to what grades and type of emulsion are available throughout the year. The manufacturer suggest using a rapid set (Rs2 or CRS2) for warm weathering patching.

Different emulsions must be used when the temperature begins to dip below 40 degrees Fahrenheit. There are several possibilities. depending on what your local supplier is able to offer. AE150 or AE300 asphalt has been used successfully for winter work.

⚠ CAUTION The emulsion tank must be cleaned thoroughly before switching emulsion. Consult your local suppliers for compatibility.

© 2013 Alamo Group Inc.

5. SPRAY PATCHER CONTROL BOX



Ops-1854

© 2013 Alamo Group Inc.

6. MACHINE STARTING AND STOPPING PROCEDURES

1. Remove the nozzle cap.
2. Start the engine.
3. Run the engine at 1200 to 1500 rpm until the nozzle is hot to the touch or the emulsion is heated to 165 degrees.
4. Unfold the boom on the rear of the machine.
5. Turn the emulsion valve, (located on the top of the machine) from the OFF position to the emulsion position.
6. **TURN OFF ENGINE.**
7. Using the 5-gallon pail provided with the machine, flush out the line until the emulsion starts to come out of the nozzle and into the pail.
8. **START THE ENGINE.** You are now ready to start patching.
9. When you are finished patching for the day, **TURN OFF ENGINE,** turn the emulsion valve from the emulsion position to the flush position. Place a 5 gallon pail under the nozzle and flush the line until you no longer see black emulsion coming out of the nozzle. The contents should be clear or white in color.
10. Turn the emulsion valve from flush position to the off position for overnight storage.
11. The above instructions must be done to ensure the life of the machine and components.

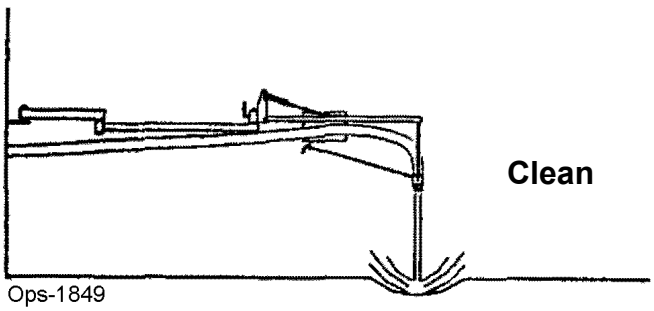
Important Any emulsion left inside the tank must be heated continuously, drained or flushed.

Emulsion Temperatures:

Storage (2 weeks or longer)	120 Degrees
Operation	165 Degrees

7. 4 STEP PATCHNG OPERATION

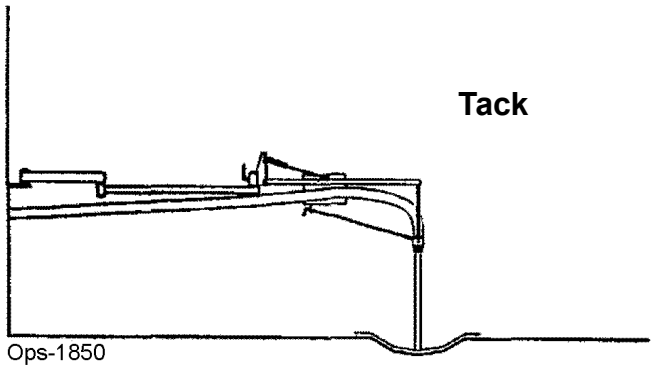
1. The Spray Patcher's articulating hydraulic boom is positioned over the pothole. Dust, dirt and debris are removed with hight velocity air.



Ops-1849

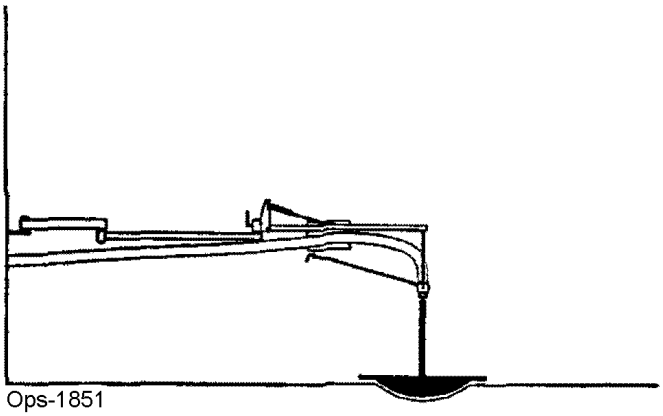
© 2013 Alamo Group Inc.

2. An emulsion of liquid asphalt is blown into the clean hole, lining the sides, filling the cracks and holes. providing a “Glue” for the patch and sealing all edges to produce a virtually seamless patch.



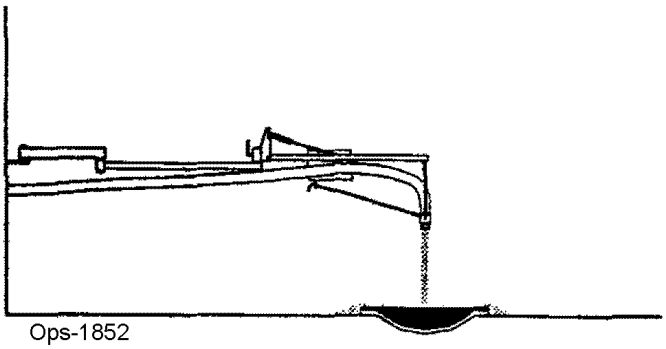
Ops-1850

3. Aggregate is then coated with emulsion in the mixing chamber and blown at a high velocity into the hole simultaneously. The air compacts from the bottom up, providing a dense, durable repair.


Ops-1851

4. Apply a thin coat of dry aggregate over the pothole to stop tire tracking.

Once sweeping is completed, press Main Broom switch up to stop and raise broom and the conveyer. The STANDBY switch can be pressed to raise all brooms to the travel position.


Ops-1852

© 2013 Alamo Group Inc.

8. TROUBLESHOOTING GUIDE

Control

Problem	*Possible Cause*	*Remedy*
PTO will not engage	Not enough air pressure to engage PTO, if air activated PTO.	Disengage PTO and allow truck brake system to build pressure check to see that Pressure Relief Valve is closed.
	Line Breaker to Main Power or PTO Switch is blown.	Inspect and reset Breaker
	PTO Solenoid bad.	Replace Solenoid.
	Transmission Fluid low.	Replenish Fluids.
Control Panel Dead	Line Breaker to main power or PTO Switch blown.	Inspect and reset Breaker.
	Wire loose.	Check all wiring.

Hydraulics

No Boom Movement	No or low hydraulic oil pressure.	Check Oil level in reservoir. Add oil if needed. If problem continues consult your dealer.
	Boom flow controls out of adjustment.	Adjust Boom movement flow control.
	Blown Breaker or broken electrical connection.	Replace Breaker. Check Control Panel Power Line at Battery.
Poor or uneven Boom movement	Low Hydraulic Oil.	Check Oil level in Reservoir.
	Boom Flow Control out of adjustment.	Adjust Boom movement Flow Control.

Rock

No Rock Flow	Delivery Hose jammed.	Open Delivery Hose at Camlock Connection and clean out.
	Valve not working.	Check Valve, repair if needed.
	PTO not engaged.	Inspect and correct (Breaker etc.)
	Conveyor jammed or cavitated.	Tighten Conveyor (Adjustment on Bearings)
	Not enough air volume.	Check Blower RPM.
	Feeder jammed.	Clean Rock from Feeder.
		Loose Drive Chain. (Tighten Chain Idler.)

© 2013 Alamo Group Inc.

	Rock Frozen in Hopper.	Warm Up - Thaw Out
		Break Up Aggregate or clean out.
Poor or uneven rock flow	Conveyor jammed or cavitated.	Adjust Conveyor speed.
	Delivery Hose or Feeder needs cleaning.	Adjust Hopper Gate.
		Clean Rock Chute.
		Clean Mixing Delivery Nozzle.
	Not enough air volume.	Check Air Blower Air Filter.
		Check Blower RPM. Should be 1500 - 1600 RPM
		Inspect Feeder Air Blow-By.
Dusty Delivery of Rock	Dusty Rock; Dry Rock	Wash down Rock before loading or dampen Rock n Hopper
No Emulsion	Not enough air pressure in Emulsion Tank Tank.	Check Emulsion Tank Air Pressure Gauge.
		Check all Air Lines to Tank.
		Disengage PTO and allow Truck Brake System to build pressure. Check to see that Pressure Relief Valve is closed.
	Line clogged, Valve clogged,	Warm Up - Thaw out Lines
		Clean Spray Ring in Nozzle (Make sure Line was flushed after each use.
Poor or uneven emulsion	Emulsion may be separated.	Drain Tank and replace emulsion.
	Emulsion Tank level too low to draw.	Fill Tank
	Spray Ring, Line or Valve clogged.	Warm Up - Thaw out Lines.
		Clean Spray Ring in Nozzle. (Make sure Line was flushed after each use.
	Not enough air pressure.	Check Emulsion Air Pressure.
		Disengage PTO and allow Truck Brake System to build pressure. Check to see that Pressure Release Valve is closed on Flush Tank and Emulsion Tank.
	Too cool for rapid set emulsion.	Change Emulsions. Too cool for rapid set Emulsion. (Consult your local supplier.)

© 2013 Alamo Group Inc.

MAINTENANCE SECTION

©2013 Alamo Group Inc.

MAINTENANCE

1. PARTS INFORMATION

Schwarze Spray Patcher's are carefully designed and built with quality materials and should be maintained using quality parts. These parts are made and tested to Schwarze specifications. Non-genuine “will fit” parts do not consistently meet these specifications. The use of “will fit” parts may reduce the sweepers performance, void warranties, and present a safety hazard. Use genuine Schwarze sweeper parts for economy and safety.

2. GENERAL MAINTENANCE

Before operating your Spray Patcher, make sure it is properly lubricated and thoroughly inspected. Only a minimum of time and effort is required to regularly lubricate and maintain this machine to provide long life and trouble free operation.

2.1 Lubrication, Filter and Maintenance Schedules

The following table tells you where to look in the manual to find procedures for specific maintenance tasks:

Table 1: Lubrication, Filter and Maintenance -Daily or Every 10 Hours

ITEM	TYPE OF SERVICE
Engine Crankcase	Check Oil Level

Table 2: Weekly Maintenance - Weekly or Every 40 Hours

ITEM	TYPE OF SERVICE
Air Intake Filter	Check and Clean (Replace if necessary)
Machinery Bearings	Lubricate all Fittings
Boom Bracket	Lubricate and Grease

Table 3: Weekly Maintenance - Monthly or Every 160 Hours

ITEM	TYPE OF SERVICE
Engine Oil	Change Oil
Air Blower Oil	Check Oil Level
Hoses	Check for Wear
Delivery Hose	Check for Wear and Rotate quarter turn
Rock Feeder	Grease (#2 Grease)

©2013 Alamo Group Inc.

Lubrication, Filter and Maintenance Schedules (Con't)

Table 4: Maintenance - Every 500 Hours

ITEM	TYPE OF SERVICE
Air Blower	Grease Blower Fittings

Table 5: Maintenance - Every 1,000 Hours

ITEM	TYYPE OF SERVICE
Blower Oil	Replace Oil

3. EMULSIFIER APPLICATION DO's AND DON'Ts

DO's

1. Determine if you have a light or heavy build-up of asphalt / road oils. Heavy is more than 1/4".
   A. Light Build-Up: Mist on a medium amount of emulsifier and let sit for approximately 5 minutes. Rinse thoroughly with water, or wipe away if using a non-painted surface.
   B. Heavy Build-Up: Mist on a medium amount of emulsifier and let set for approximately 15-20 minutes. Rinse with water. Repeat until clean. Super heavy build-up may take 2-3 applications to reach bare metal.
2. Sometimes, hot pressure wash helps to flush away loosened deposits more thoroughly.
3. To reduce usage of emulsifier always apply a light coat prior to your paving activity. This greatly reduces the ability of the asphalt to stick and cure on your paving equipment, demanding much less product to clean the equipment after your paving activity.
4. Hand Tools:
   A. Use above process to clean hand tools.
   B. Once you have a clean tool and are ready to start using, mist on a light coating of emulsifier to help prevent sticking.
   C. When a light build-up starts to occur, stop and mist again, then continue shoveling or raking.
5. Do realize that the reason diesel fuel cannot be used is not only due to E.P.A. regulations, but that we all should be concerned with the future availability of water on our planet. Diesel fuel ends up in our ground water and streams, killing wildlife and eventually making our water undrinkable.

DON'Ts

1. Don't wait until you have an inch or two of build-up to use emulsifier, then expect it to clean off immediately.
2. Don't use emulsifier on a painted surface it testing it on a small area first. Always rinse painted surfaces thoroughly with water after use.
3. Don't apply an excessive amount of emulsifier on the first application. Apply until you first see the asphalt begin to run. The waiting period and repeating the application is much more important than the amount you apply initially.
4. Don't rinse emulsifier of too quickly. It needs time to penetrate asphalt deposits thoroughly so it can be flushed away.

©2013 Alamo Group Inc.

4. CLEAN-UP AND OVERNIGHT STORAGE

At the end of the day and before any prolonged break in patching during the day, the emulsion line must be flushed. This is accomplished by switching the emulsion valve to ***"FLUSH"***. The emulsion valve in the cab is opened and the flushed material is allowed to flow through the nozzle until it is clean. The flush is left in the line overnight but it **must be cleared out before the patching operation resumes.**

Overnight, the emulsion tank must be plugged into a 110-volt, single phase power source to maintain operating temperature. **The emulsion level in the tank must cover the heating element before heating.** The Manufacturer suggests keeping the element thermostat at 165 degrees Fahrenheit. If the emulsion will be stored for two or more weeks, turn the temperature down to 130 degrees Fahrenheit.

©2013 Alamo Group Inc.

LOAD KING